

CLAIMS

1. An electromagnetic shock absorber comprising:
a shock absorber body which makes telescopic motion in response to an input from outside;
a ball screw mechanism which is arranged at the shock absorber body, converts the telescopic motion into rotary motion, and is composed of a ball nut and a screw shaft; and
a motor which is provided coaxially with the shock absorber body and generates electromagnetic resistance to oppose against the rotary motion to be input into a rotary shaft of the motor,
wherein the screw shaft and the rotary shaft of the motor are constituted as one united shaft member.
2. An electromagnetic shock absorber according to claim 1, wherein the shock absorber body has an external cylinder and an internal cylinder to be slidably inserted into the external cylinder, and the motor is coaxially connected with an upper part of the external cylinder.
3. An electromagnetic shock absorber according to claim 2, wherein the ball nut of the ball screw mechanism is fixed to an upper part of the internal cylinder, and the screw shaft which is united with the rotary shaft of the motor is spirally engaged with the ball nut.
4. An electromagnetic shock absorber according to claim 3, wherein the screw shaft and the rotary shaft are connected by an intermediate shaft section which is rotatably supported by an inside wall of the external cylinder through a bearing.

5. An electromagnetic shock absorber according to claim 4, wherein a diameter of the intermediate shaft section is thinner than that of the screw shaft and further a diameter of the rotary shaft is thinner than that of the intermediate shaft section.

6. An electromagnetic shock absorber according to claim 4 or claim 5, wherein a first cushion member which comes into contact with a lower surface of the ball nut at a maximum descent stroke position of the internal cylinder is installed at a lower end of the screw shaft.

7. An electromagnetic shock absorber according to claim 4 or claim 5, wherein a second cushion member which comes into contact with an upper surface of the ball nut at a maximum ascent stroke position of the internal cylinder is installed at a lower surface of the bearing.